Scramble

Determine which atoms are being reduced and oxidized

Calculate the change in oxidation state between the reactant and products for both the reduction and oxidation

Calculate the coefficients that would be required to balance the charge

Balance H and O using H2O molecules

Write separate half-reaction equations for oxidation and reduction.

Balance all elements except H and O

Balance O by adding H2O molecules.

Balance H by adding H+ ions

Balance charges by adding electrons.

Balance the electron

Add the half reactions

Problem Set

Ex 1

Cu(s)+ HNO3(aq)  Cu(NO3)2(aq) + NO(g)+ H2O(l)

Ex 2

MnO4-(aq) + Fe2+(aq) + H+(aq) → Mn2+(aq) + Fe3+(aq) + H2O(l)

Ex 3

Cr2O72−(aq) + HNO2(aq)   Cr3+(aq)+ NO3−(aq)

Ex 4

Mn2+(aq) + NaBiO3(s) → Bi3+(aq) + MnO4-(aq)